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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,310	02/07/2001	Stephen Memory	655.00875	5647

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EXAMINER
PATEL, NIHIR B

ART UNIT	PAPER NUMBER
3743	13

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/778,310	MEMORY ET AL.
	Examiner	Art Unit
	Nihir Patel	3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *June 2nd, 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13,14,16,17,19 and 31-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 1-24-02 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 13, 14, 16, 17, 19, and 31-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13, 14, 16, 17, 19, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasuhiko Patent No. JP05099581. Referring to claim 13, Yasuhiko discloses heat exchanger and manufacture thereof that comprises first and second headers 1 (see figure 1); at least one flattened tube 4 (see figures 1, 2, 7, and 8) extending between and in fluid communication with the headers 1 and defining a plurality of generally parallel tube runs (see figures1, 2, 7, and 8) in spaced relation to one another; each tube runs having opposite edges defining a tube major dimension and interconnecting side walls defining a tube minor dimension and a plurality of interior ports (see figure 7); a plurality of plate fins 3 (see figures 1, 2, 6, 7, and 8) arranged in a stack and each having a plurality of open ended tube run receiving slots (see figure 7), one for each tube run, each slot having a shape generally that of the cross-section of the tube run to be received therein, a width equal to or just less than the minor dimension of the corresponding tube run and a depth somewhat less then the major dimension of the corresponding tube run (see figure 7); each tube run being nested within corresponding slots in

the fins with one of the side walls of each tube run located outwardly of the slots in which it is received (see figure 7); the headers, tube runs, and the fins comprising a brazed assembly.

Referring to claim 14, Yasuhiko discloses tube runs that are defined by individual tube runs (see figures 1, 2, 6, 7, and 8).

Referring to claim 16, Yasuhiko discloses slots that are at least partially bounded by flanges brazed to the tube runs (see figure 7).

Referring to claim 17, Yasuhiko discloses slots that have flange free edges brazed to the tube runs (see figure 7).

Referring to claim 19, Yasuhiko discloses plate fins 3 that are elongated and the slot open to one end elongated edge thereof, the other elongated edge being uninterrupted by the slots (see figure 7).

Referring to claim 31, Yasuhiko discloses heat exchanger and manufacture thereof that comprises first and second headers 1 (see figure 1); at least one flattened tube 4 (see figures 1, 2, 7, and 8) extending between and in fluid communication with the headers 1 and defining a plurality of generally parallel tube runs (see figures1, 2, 7, and 8) in spaced relation to one another; each tube runs having opposite edges defining a tube major dimension and interconnecting side walls defining a tube minor dimension and a plurality of interior ports (see figure 7); a plurality of elongated plate fins 3 (see figure 7) arranged in a stack and each having a plurality of open-ended elongated, aligned tube runs (see figures 1, 2, 6, 7, and 8) receiving slots with the slots opening to an elongated edge of the fins, one for each tube run, each slots having a shape generally that of the cross-section of the tube run received therein, a width equal to or just less than the minor dimension of the corresponding tube run and a depth somewhat less than the

major dimension of the corresponding tube run (see figure 7); each tube run being nested within corresponding aligned slots in the fins with one of the walls of each tube run located outwardly of the slots in which it is received (see figure 7); the headers, tube runs, and the fins comprise a brazed assembly.

Referring to claim 32, Yasuhiko discloses slots that are at a substantial angle to the direction of elongation of the fins (see figure 7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhiko Patent No. JP05099581 in view of Scholl US Patent No. 3,687,194.

Yasuhiko discloses the applicant's invention as claimed with the exception of providing slots that are about 90 degrees to the direction of elongation of the fins.

Scholl discloses ribbed pipe unit that does provide slots that are about 90 degrees to the direction of elongation of the fins. Therefore it would be obvious to modify Yasuhiko's invention by providing slots that are about 90 degrees to the direction of elongation of the fins in order to increase the heat transfer process.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
June 18, 2003

Henry Bennett
Supervisory Patent Examiner
Group 3700